



## A Case Report on Pantoprazole-Induced Thrombocytopenia

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### ABSTRACT

Proton pump inhibitors (PPIs) are used to treat peptic ulcer disease, gastroesophageal reflux disease, acute gastrointestinal bleeding, Zollinger-Ellison syndrome, and Helicobacter pylori infection, Eradication of Helicobacter Pylori. They are also frequently used to treat upper gastrointestinal bleeding (UGIBs). Inhibiting stomach H<sup>+</sup>/K<sup>+</sup> ATPase proton pumps not only help to minimize discomfort and progression of disorders like GERD and PUD, but it also increases platelet aggregation and plasma coagulation, hence stabilizing blood clot formation. Thrombocytopenia is defined as a platelet count less than 150000/microliter (for adults). Thrombocytopenia is a rare adverse effect of pantoprazole. A few case reports suggested pantoprazole-induced thrombocytopenia. Our study demonstrated similar findings in a case report published in the Journal of Pharmacy Practice 2021. While analyzing the Naranjo adverse reaction probability scale to find the association between thrombocytopenia and pantoprazole, it was found to be 7. The exact mechanism of pantoprazole-induced thrombocytopenia was not well known. This report shows the importance of clinical pharmacists in tertiary care hospitals.

**Keywords:** Thrombocytopenia, pantoprazole, peptic ulcer disease, platelet.

### INTRODUCTION

Pantoprazole is widely used, generally well tolerated and the most commonly reported adverse effect<sup>1</sup>. It is widely used for the treatment of a variety of gastric-related disorders, including peptic ulcers, gastroesophageal reflux disease and upper gastrointestinal bleeds<sup>2</sup>. PPIs are increasingly associated with several adverse effects such as nutritional deficiencies, rebound acid hypersecretion, acute interstitial nephritis, bone fracture, enteric infections and pneumonia<sup>3</sup>. A rarely reported adverse effect consists of thrombocytopenia associated the use of pantoprazole<sup>4</sup>. We describe a case in which the patient developed thrombocytopenia while taking intravenous pantoprazole.

#### Case presentation:

A 55-year-old man was admitted to the General Medicine Department with complaints of chest pain, fatiguability, and giddiness for 2 days, he also complained history of headache associated with stomach pain. The patient had haematemesis and recurrent loss of consciousness since 1 day. During reconciliation patient informed us that he was suffering from abdominal pain from past one month for which he used to consume tab. Ibuprofen 400mg. Immediately patient was suggested to go for a UGI endoscopy which showed a large ulcer in his duodenum.

Hemoglobin level was also assessed which was found to be 10g/dl. The patient was started with iv bolus pantoprazole 80mg od, followed by tranexamic acid iv 500mg bd, ceftriaxone 1g iv bd, and tab. vitamin B complex od. The Pantoprazole drip was continued for the first 3 days. However, we noticed a trend of falling platelets and by the 3rd day. We ruled out infectious causes of

thrombocytopenia and halted Pantoprazole on suspicion. His platelet count was 177 (\*10<sup>3</sup> per mm<sup>3</sup>) upon admission. Following that, his platelets dropped to 111 (\*10<sup>3</sup> per mm<sup>3</sup>) on day 2 and 94 (\*10<sup>3</sup> per mm<sup>3</sup>) on day 3.

A manual peripheral smear ruled out pseudothrombocytopenia. The platelets continued to drop to 57 (\*10<sup>3</sup> per mm<sup>3</sup>) on day 4, without any evidence of bleeding. Pantoprazole was suspected as the reason because no other cause could be established. We recommended physician to stop pantoprazole to 80mg. The physician withheld the drug and added omeprazole 40mg as an alternate for the stopped drug. The patient was restarted on omeprazole, and his thrombocytopenia improved, but the source of his thrombocytopenia was not investigated. During each stay, the patient was not provided any blood products. Thrombocytopenia was a rare side effect of pantoprazole.

A few case reports suggested pantoprazole-induced thrombocytopenia. Our study had demonstrated similar finding of a case report published in journal of Pharmacy Practice in 2020, pantoprazole-induced thrombocytopenia.<sup>2</sup> While analyzing narijo adverse reaction probability scale to find the association between thrombocytopenia and pantoprazole, it was found to be 7.

The exact mechanism of pantoprazole-induced thrombocytopenia was not well known. This report shows the importance of clinical pharmacists in tertiary care hospitals.



## CONCLUSION

In conclusion, thrombocytopenia is a critical complication of the use of pantoprazole. Though rare, the possibility of the same should always be considered. Large scale studies exploring the mechanism of this side effect are required.

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